

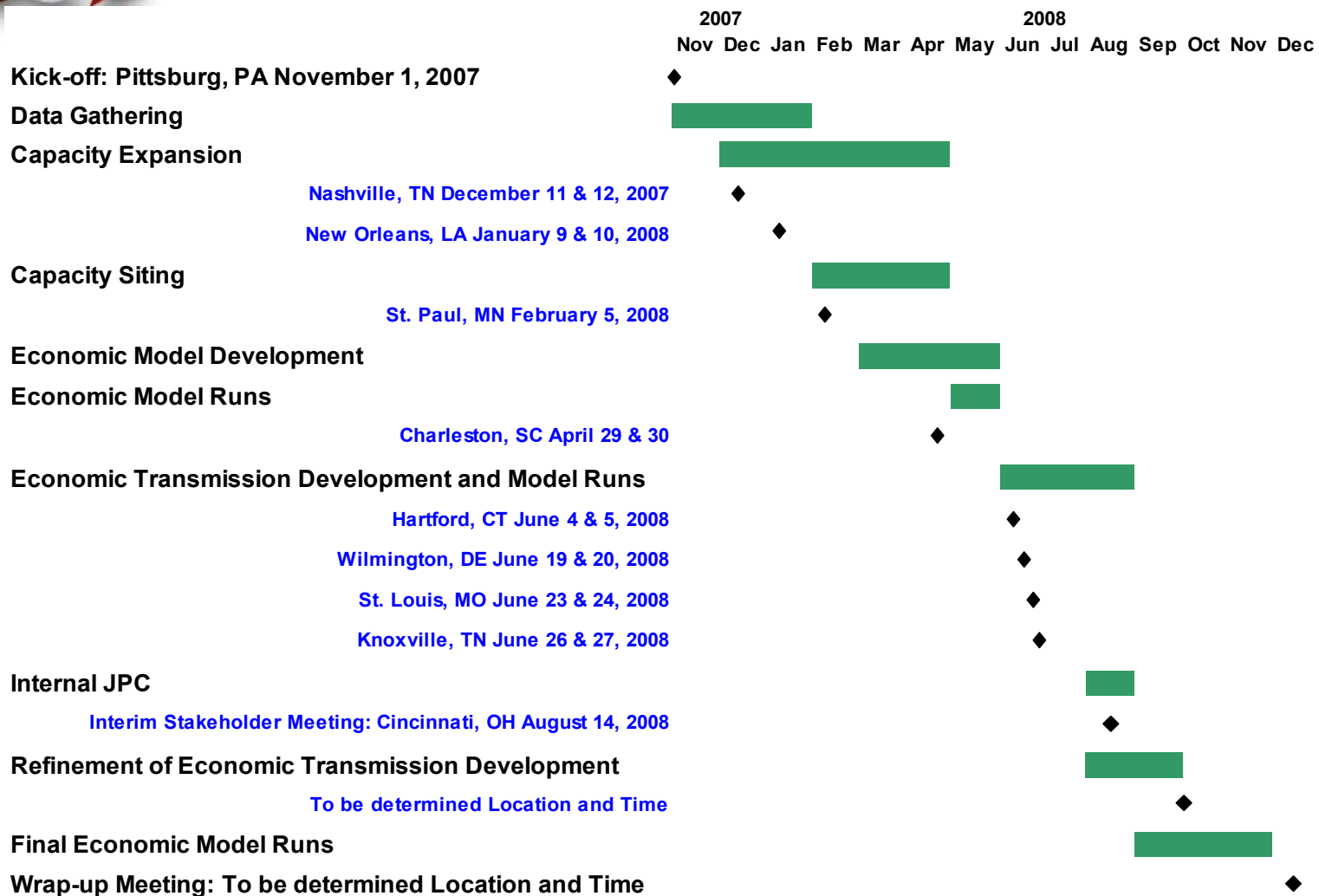


JCSP 2008

Economic Transmission Development Work-to-Date

June 18, 2008
FERC Offices, Washington, D.C.

Workshop Locations and Schedule



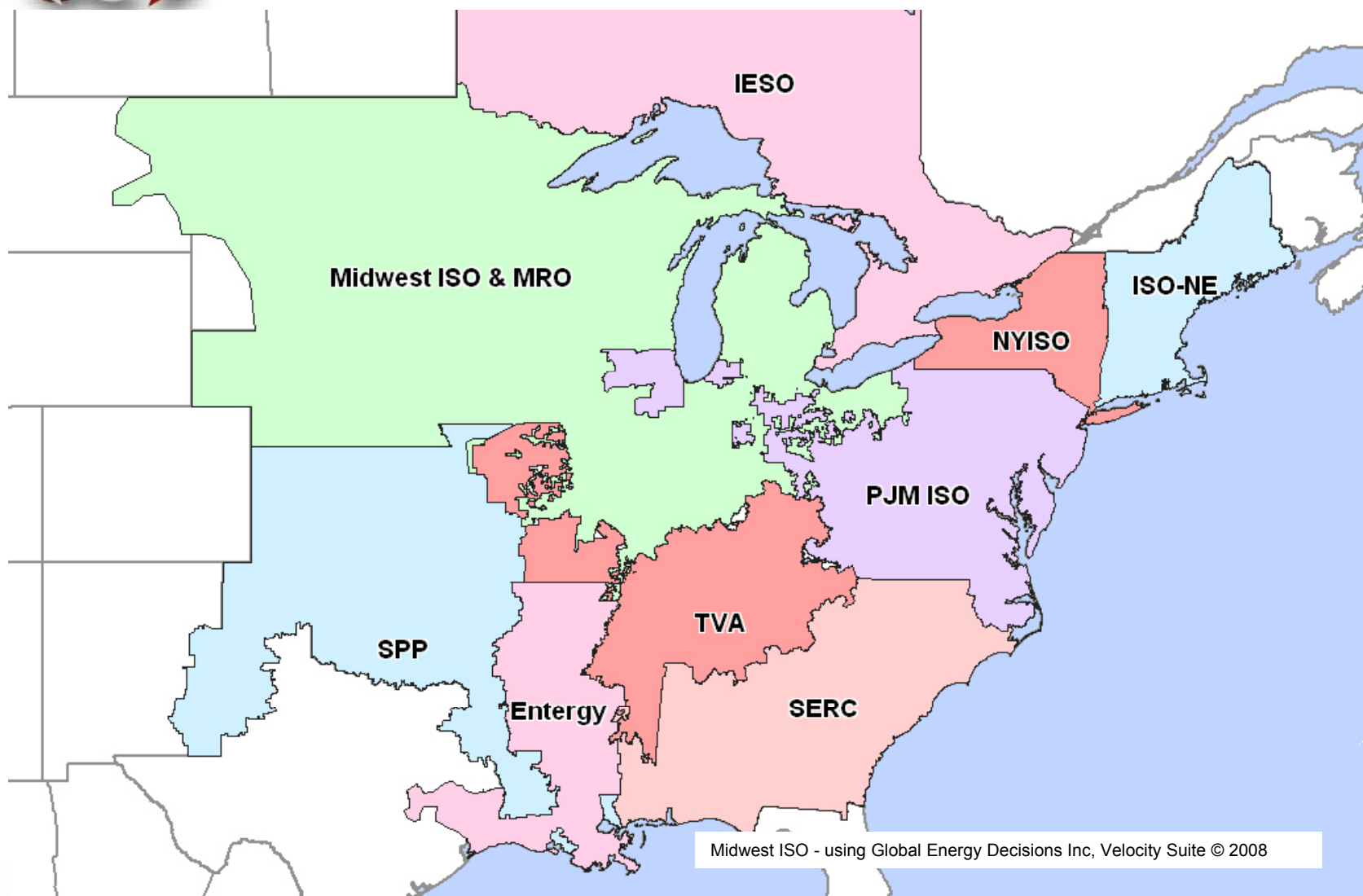
Reference Scenario

- Assumes existing renewable portfolio standards to be met with wind
 - Creates a 5% eastern interconnect wind energy model
- Models the power system as it exists today
- Base transmission expansion plans in-service

20% Wind Mandate Scenario

- Assumes 20% of the energy consumption comes from wind by 2024
- Reference Scenario wind accounted for in this Scenario
- Models the power system as it exists today
- Base transmission expansion plans in-service

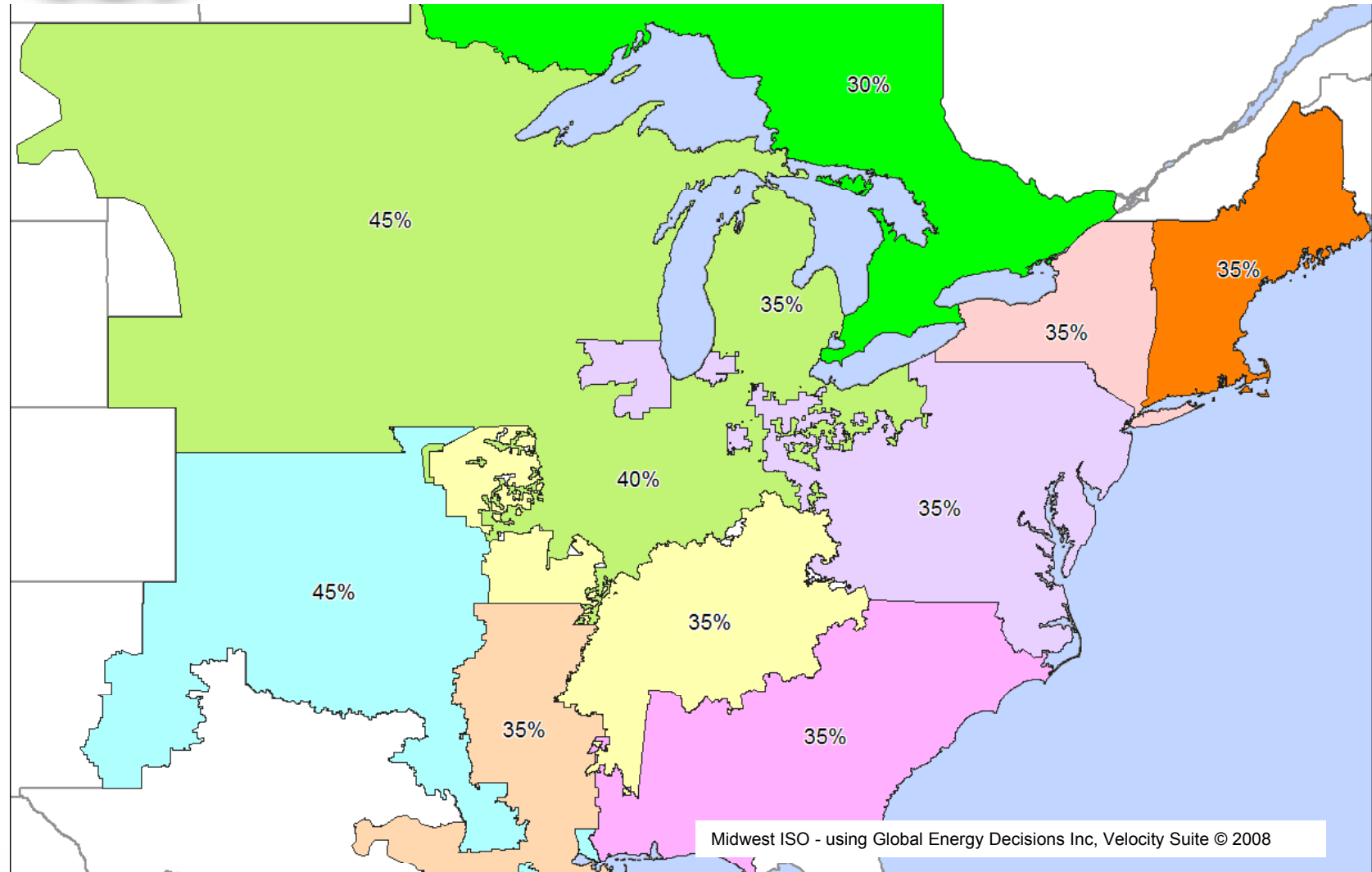
Region Definition



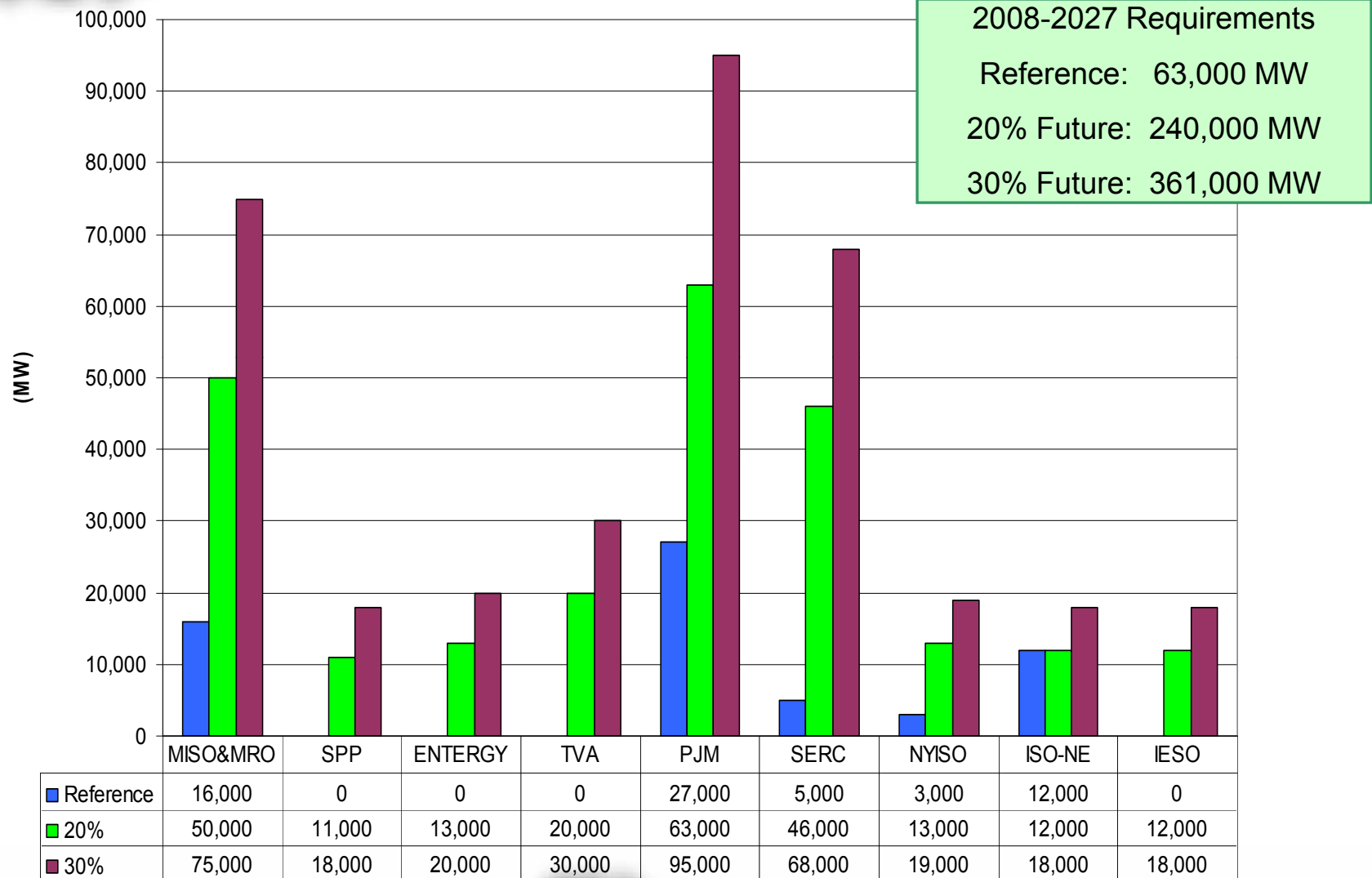
Existing Capacity Assumptions

- Active – Existing online Generation
- Planned - a generator which is not online and has proceeded to a point where construction is almost certain
- Only known retirements are assumed for the study
- Re-licensing is assumed on all Nuclear Units
- Proposed Nuclear Additions are treated as “planned” units in the study
- Demand Side Management
 - Assumed existing penetration percentage stays constant throughout study period
- Wind is given a 15% capacity credit toward resource adequacy calculations

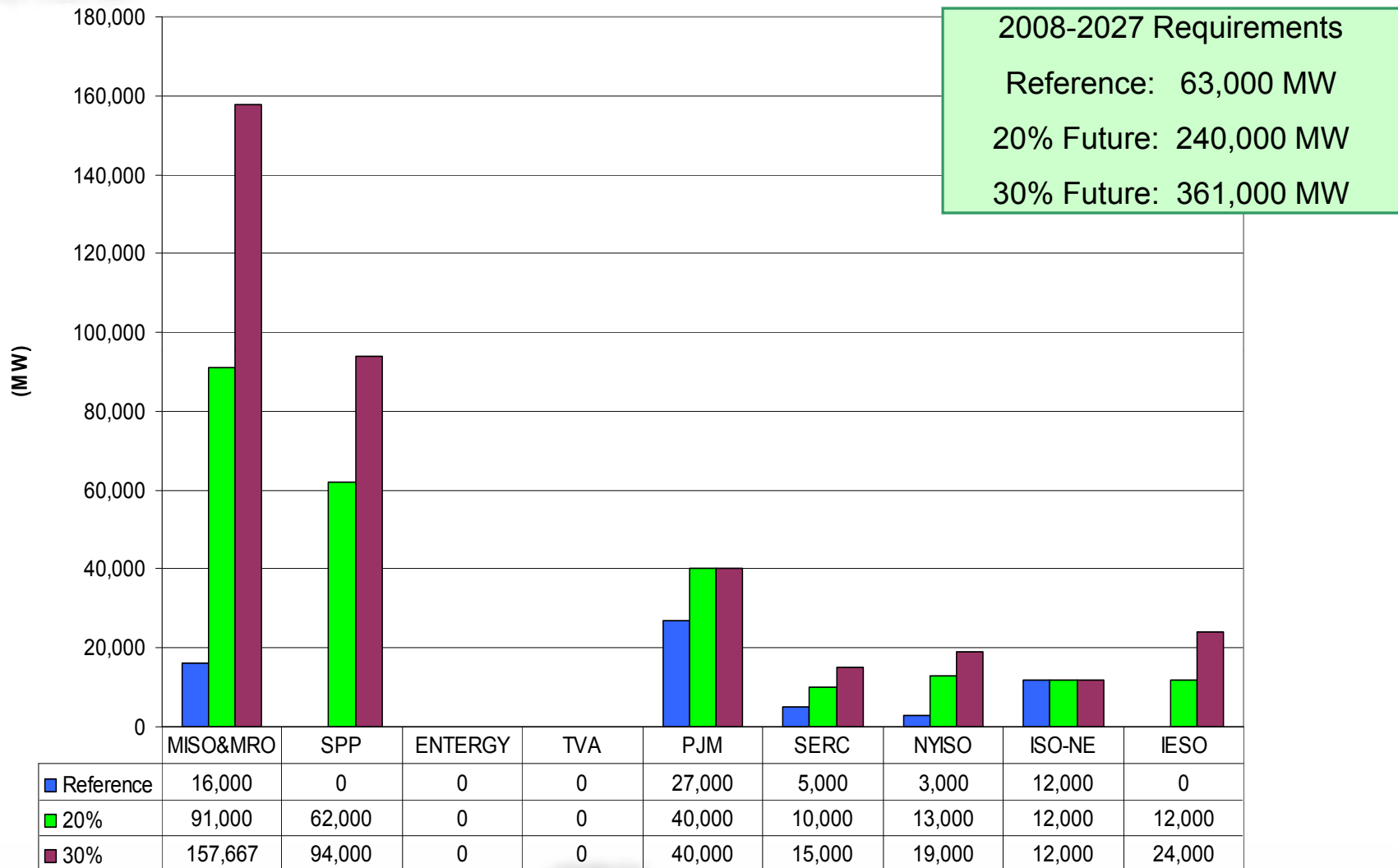
Regional wind capacity factors used in calculating wind requirements



2008-2027 (Study Period) Incremental Regional Wind Requirements

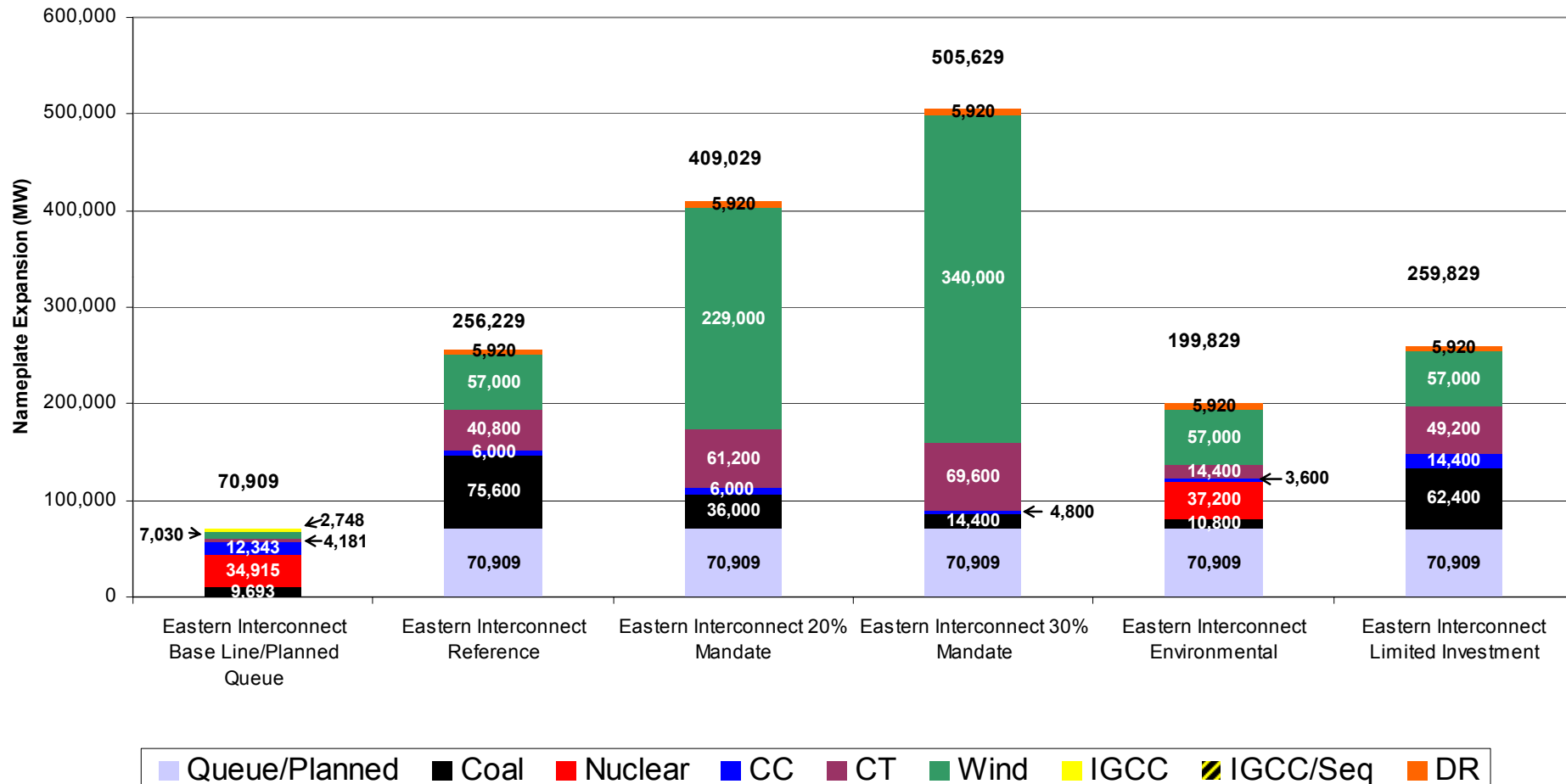


Redistribution of Incremental Wind Requirements Based On Wind Quality/Availability



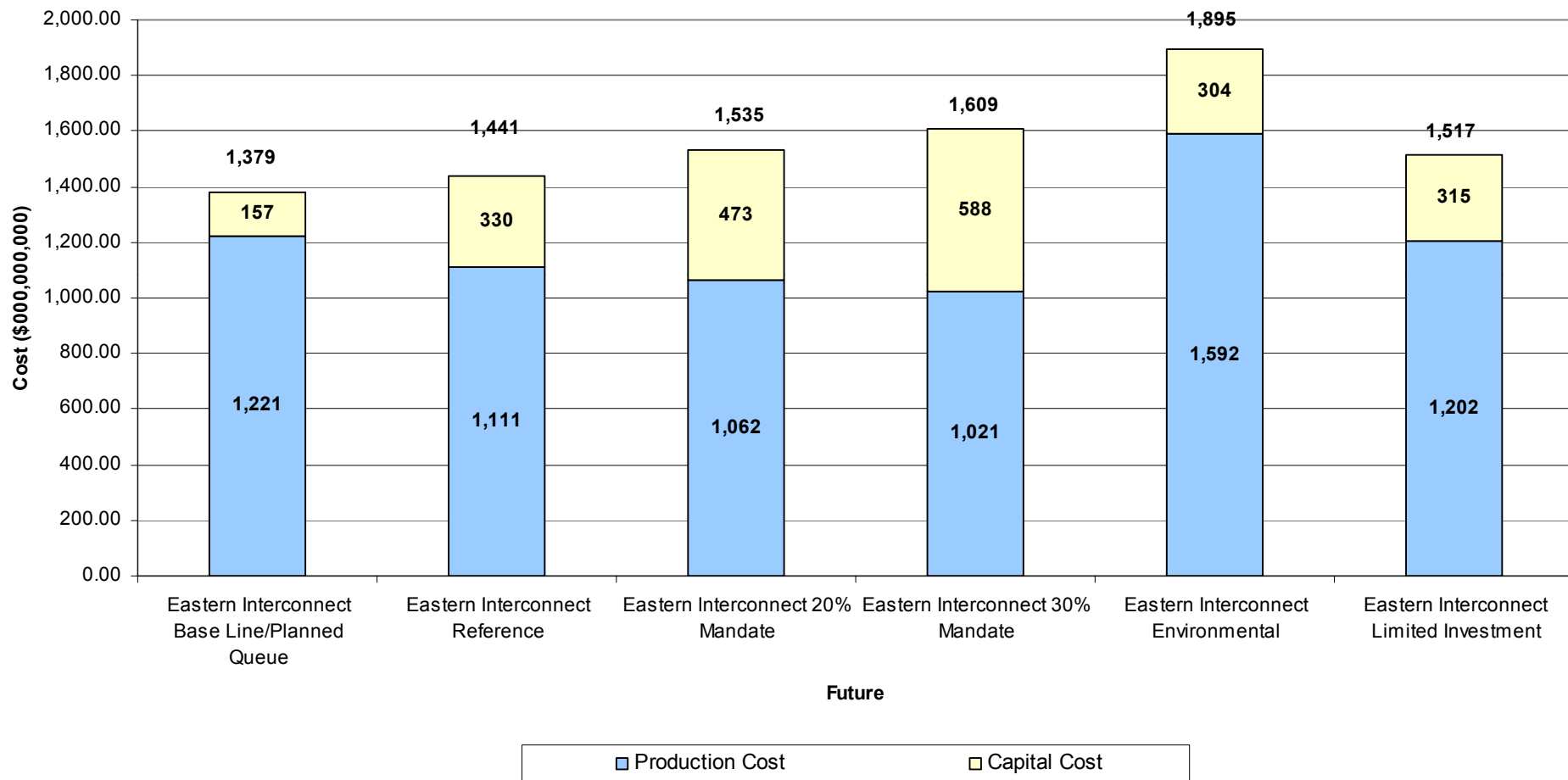
Eastern Interconnect Expansion

Generation Nameplate Expansion 2008-2024



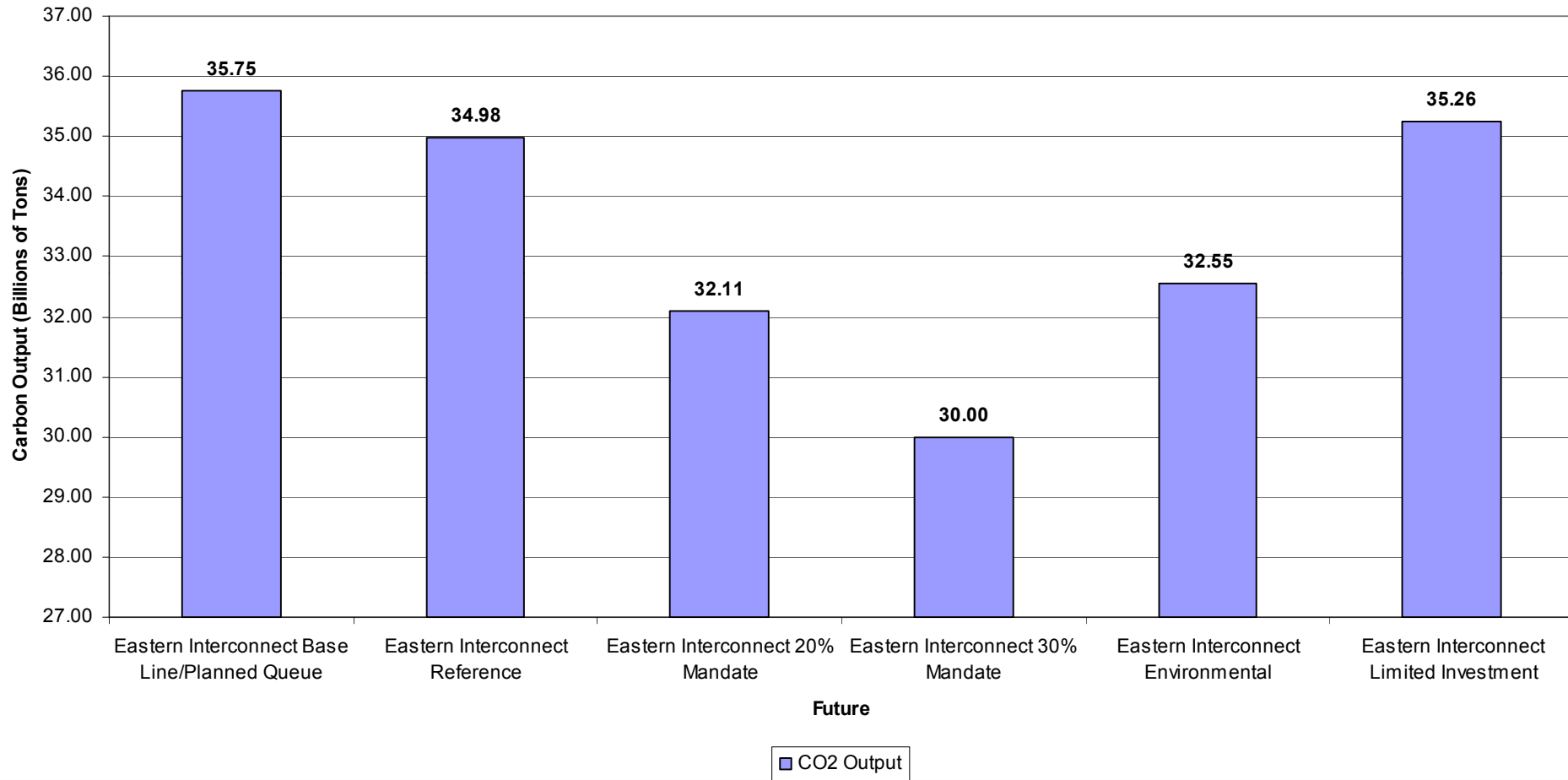
Cost associated with Eastern Interconnect Expansion

2008-2024 Present Value Accumulated Costs




CO₂ Output for Eastern Interconnect Expansion

2008-2024 Cumulative CO₂ Output



General Siting Methodology



Transmission is not an initial siting factor, but may be used as a weighting factor all things being equal

Site by region with the exception of wind

“Share the Pain” mentality. Not all generation in a region can be placed in one state and one state cannot be excluded from having generation sited

Avoid Greenfield Sites for gas units (CTs & CCs) if possible - prefer to use all Brownfield sites

Site baseload units in 600 MW increments, & Nuclear at 1,200 MW

Limit the total amount of expansion to an existing site to no more than an additional 2,400 MW

Restrict greenfield sites to a total size of 2,400 MW

Limit using Queue generation in multiple futures



Thermal Generation Site Selection Priority Order

Priority 1: Generators with a “Future” Status

- Queue Generators without a Signed IA
- Global Energy’s “New Entrants” Generators – Will be referred to as “EV” Gens
- Both Queue and EV Gens are under the following status:
 - Permitted
 - Feasibility
 - Proposed

Priority 2: Brownfield sites (Coal, CT, CC, Nuclear Methodology)

The following Priorities not triggered in JCSP context:

Priority 3: Retired/Mothballed sites which have not been re-used

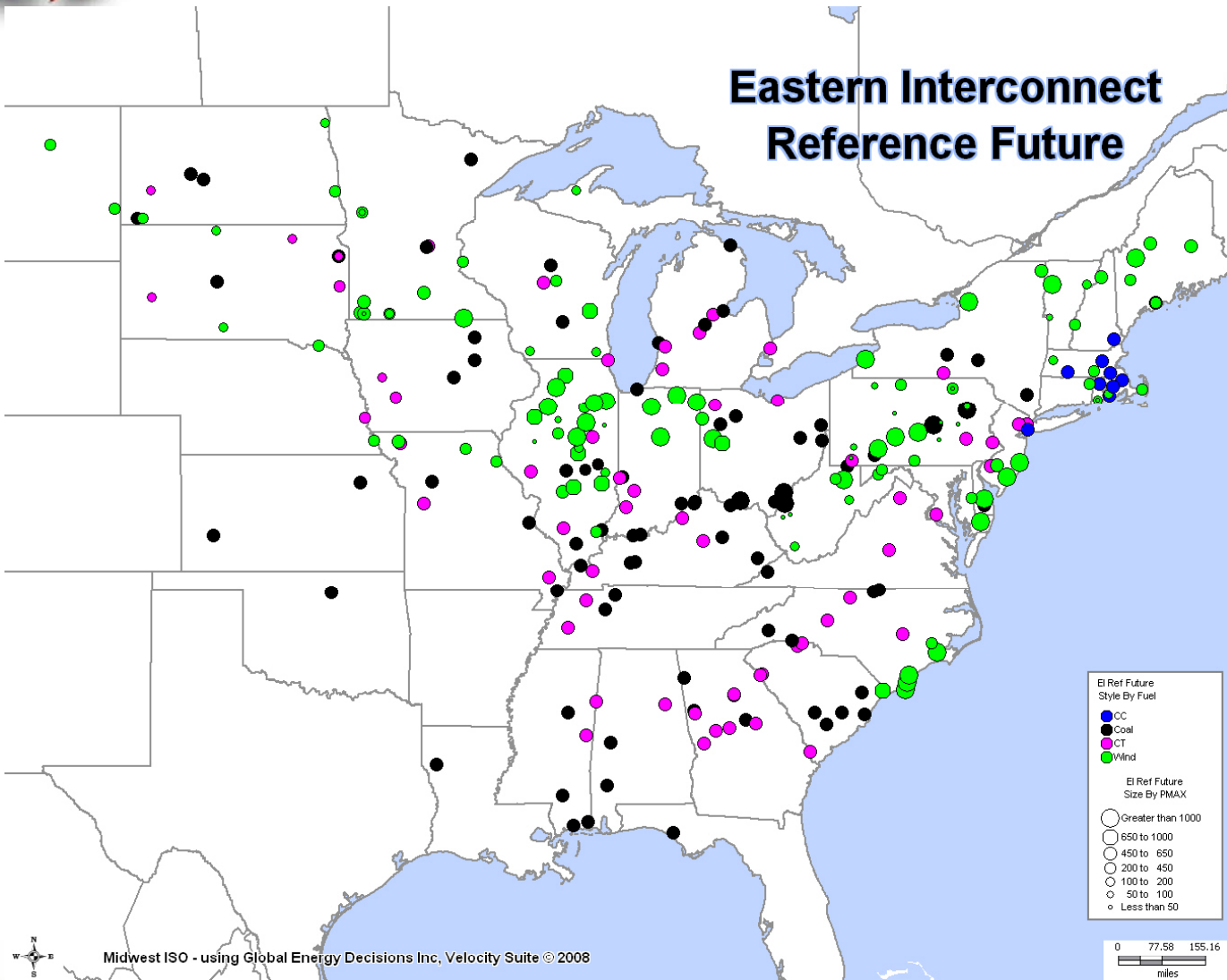
Priority 4: Greenfield Sites

- Queue & “New Entrants” in Canceled or Postponed Status

Priority 5: Greenfield Sites

- Greenfield Siting Methodology

Reference Future Siting



Renewable Future Siting (20% Wind Mandate)

